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SORGHUM FOR FORAGE IN THE COTTON BELT.

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INTRODUCTION.

Sorghum is a well-known crop in the South, but deserves to be grown much more extensively than it is at present. The forage sorghums are not recommended as money crops. They should be utilized mainly as fodder on the farm where they are produced, or should be fed at points within hauling distance. For the production of beef cattle and dairy products in the South, every farmer should grow the sweet sorghums. As a fodder they are practically equal in value to corn and generally better yields are obtained.

SOIL REQUIREMENTS OF SORGHUM.

No crop perhaps responds better to a good soil than sorghum, yet there are few which will succeed on so many different types. A rich, loose, well-drained clay-loam soil is best. Good crops may be expected on sandy loam and on heavy clays when the latter are well drained. The sorghums will not give profitable returns, however, on clays which are water-logged or on extremely sandy soils. Where the soil is poor or unproductive, an application of fertilizer strong in nitrate should be made at planting time. Liberal applications of barnyard manure will always greatly increase the yield.

WHAT VARIETIES TO GROW.

Sweet sorghums are best for forage in the South, and of these the Sumac, Orange, Amber, Gooseneck, and Honey varieties are best. The Sumac (commonly known as "Redtop"), the Gooseneck (in many places wrongly designated "Texas Seeded Ribbon Cane"), and the Honey are long-season varieties which make heavy yields, while the Amber and Orange are earlier kinds. Two cuttings can often be obtained from the early varieties. Grain sorghums, like milo, kafir, shallu, durra, and feterita, have not been generally

NOTE.—Intended for farmers in the cotton belt who desire to diversify their farming because of the economic crisis which adversely affects the cotton crop at this time.

successful on account of the attacks of an insect—the sorghum midge—which prevents the development of the seed.

USE GOOD SEED OF STANDARD VARIETIES.

Sorghum seed is usually cheap, but the farmer will do well to buy from a reliable dealer seed of the varieties mentioned rather than that of novelties so often glowingly described in seed catalogues. Where the farmer decides to grow his own seed care must be used to separate his seed plat from fields of other varieties, since the sorghums cross very freely. When fully mature the heads may be cut off in the field or from the bundles after the sorghum has been cut and shocked. These heads can then be thrashed in an ordinary grain thrasher or flailed out on a canvas or the barn floor. The treatment of the seed is not often necessary, but where kernel smut is present it can be prevented in the coming crop by soaking the seed for an hour in a solution of formalin—1 pint (pound) of formalin to 30 gallons of water—after which the seed is dried before planting.

PREPARATION OF THE LAND.

Where surface planting is practiced spring plowing is best, as it kills the early crop of weeds and warms the soil. After plowing the land it should be allowed to lie rough until about seeding time and then smoothed with a drag harrow or disk; after which it can be marked off in rows the required distance apart. Where the furrow method of planting is followed the land will not need to be spring plowed. If the farmer has a lister for planting corn this can be used on stubble land or cotton land and the planting done without previous preparation. Where the farmer does not have a lister the furrows can be laid out with a plow or “middle buster” and the seed planted in these furrows with a 1-horse drill, after the manner of planting cotton or corn.

WHEN AND HOW TO PLANT.

Sorghums may be planted as soon as the ground becomes warm in the spring, usually from one to two weeks later than Indian corn. When the season is favorable the planting may be done from this time until as late as will permit the crop to mature before frost. The method of planting in rows is the same as that for corn and the same tools may be used. Planting in a furrow is advised for western Texas and Oklahoma, and flat or ridge planting for all the region east of this, where the rainfall is more abundant. Planting on ridges should be practiced only where surface drainage is required. When planted in rows 36 to 44 inches apart 4 to 6 pounds of seed to an acre are sufficient. Thus planted, thorough cultivation, such as that given to corn, is essential. Broadcast or drilled seeding is sometimes practiced, but the yield is never so large as in cultivated rows, and such fields do not stand drought so well. Broadcast or drilled, 1 to 1½ bushels of seed will be required east of the Mississippi River, in Arkansas, eastern Texas, and Oklahoma, while 2 to 3 pecks in the drier regions west of this will be found best. The preparation of the land and the method of seeding in this case are the same as for oats or any other small-grain crop.

TIME TO HARVEST.

Sorghum should not be cut for fodder or silage while immature. Much of the dissatisfaction experienced with sorghum has arisen from poor judgment as to the time for cutting. If the seed is allowed to reach the hard-dough stage before cutting either for fodder or hay, the roughage will be found much less "washy" or loosening in its effect on both horses and cattle. In localities where the seed is destroyed by the sorghum midge it is best to let the crop stand for two weeks after the blossoming period. When grown in cultivated rows it can be cut with a corn knife and placed in large shocks to cure. The row binder, such as is used on corn in the North and West, is more efficient for harvesting. Broadcast or close-drilled fields can be cut with a mower and cured like ordinary Johnson grass or timothy hay.

HOW TO FEED SORGHUM.

For milch cows and work horses 18 to 25 pounds per day of the fodder or hay will be found sufficient if supplemented by the ordinary amount of grain. Beef cattle should be fed all they will eat clean. Cottonseed meal or some other concentrate high in protein and fat should always be fed in connection with the sorghum roughage. Stock cattle and horses can be carried through the winter without grain if they are fed a liberal quantity of sorghum fodder.

PASTURING SORGHUM.

Sorghum can be pastured safely after it has become fully mature; that is, after the seed has become hard. It should not be pastured, however, during the growing period, as there is sometimes formed in the young sorghum plant a poison which is fatal to stock. This poison is more likely to occur after a period of drought. The second growth is usually considered more dangerous than the first, and if stock are allowed to pasture on such sorghum they should be watched carefully.

SORGHUMS IN MIXTURE WITH LEGUMES.

Cowpeas or soy beans mixed with sorghums in broadcast or drilled seedings improve the quality of the hay and are valuable, especially on dairy farms. For such plantings the seed should be mixed in the proportion of three parts of cowpeas or soy beans to one part of sorghum seed. From 60 to 90 pounds of such a seed mixture are required to an acre.

Cowpeas may be seeded with the sorghums in row plantings, as they are in corn. It is difficult to get a good growth of cowpeas, however, the leafy nature of the sorghums making the shade too dense. Row mixtures are also more difficult to harvest, so that it is usually advisable to mix these crops only in broadcast seedings.

SORGHUM FOR SILAGE.

For the man who has live stock, and especially for the dairy farmer, a silo is very essential, and no crop can be grown in the cotton belt which will produce more good silage per acre than the

sorghums. The various Southern States report yields of 16 to 20 tons of sorghum silage per acre, the yields averaging 2 to 4 tons per acre above those of corn. In Florida and that portion of the other States bordering directly on the Gulf Japanese cane usually makes better yields of silage than the sorghums, but north of this region the sorghums are more dependable.

The Kansas Agricultural Experiment Station in feeding tests has found the silage of sweet sorghums but little inferior, pound for pound, to corn silage for dairy cattle, and equal or superior to it for beef cattle. Combined with cottonseed meal, always abundant in the South, it makes an almost ideal ration for such animals. When using sorghums for silage, they must be allowed to become fully mature before they are harvested. If cut when the seed is hard, there will be no trouble from spoiling or from excessive acidity. When using silage it is always well to feed some dry roughage in connection with it. From 20 to 30 pounds of silage per day are considered a full feed, but this should always be supplemented with 12 to 16 pounds of dry roughage and some concentrate like corn or cottonseed meal.

SUDAN GRASS, A NEW HAY SORGHUM.

A recent addition to our crop plants is sure to prove of great value to the South. Sudan grass was brought to the United States from Egypt in 1909, and no other importation ever sprung into favor so quickly. It is now recognized as the coming hay grass of Texas, and when better known in the Southeastern States it will be almost as popular there. In the immediate Gulf coast region, however, it, like the other sorghums, is affected by the red-spot disease, which farmers usually call rust. At the present time the price of Sudan-grass seed prohibits it from being generally used as a hay grass, but as soon as the quantity of available seed is greater it should become a recognized part of every farmer's crop in the northern two-thirds of Louisiana, Mississippi, Alabama, and Georgia and in virtually all of the States of South Carolina, North Carolina, and Tennessee, as well as Arkansas, Oklahoma, and Texas.

It should be sown broadcast or drilled when the ground has become warm in the spring, at the rate of 15 to 20 pounds per acre in the Eastern States and 10 to 15 pounds per acre in the more western ones. It can be cut with a mower and cured like any other hay crop. It should be cut about the time of full bloom. Two to three cuttings can be secured, and yields of 3 to 4 tons per acre may be expected. The hay is very palatable and at least as high in feeding value as that of Johnson grass. It is an annual and never becomes a weed in fields where it has been grown.